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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,762	12/29/2000	Sailesh Kottapalli	2207/10121	5066

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EXAMINER

PAN, DANIEL H

ART UNIT	PAPER NUMBER
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2183

MAIL DATE	DELIVERY MODE
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09/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/751,762	Applicant(s) KOTTAPALLI ET AL.	
	Examiner Daniel Pan	Art Unit 2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Claims 1-21 remain for examination.
2. Claims 1 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The response to applicant's remarks are given below.
3. Claim 1, rejected under 35 U.S.C. 102(a) as being anticipated by Gottlieb (6,016,542).
4. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Eikemeyer (6,694,425).
5. As to newly amended claim 1, the change is directed to clarify the language, not affecting the scope.
6. The rejections are maintained and incorporated by reference the last office action on 03/13/07.
7. The response filed by applicant on 07/13/07 has been fully considered but is not persuasive.
8. In the remarks, applicant argued that :
 - a) support for practical application may be found at page 3, lines 9-16 of applicant's specification;
 - b) "determining" and "flushing" are positive recitations of limitations;
 - c) final result and steps taken are all directed to useful, tangible, and concrete result and supported by specification;
 - d) performing a number of tasks A over an approximate of time A' is not the same as performing a task B after a certain, predetermined amount of time B' passes;
 - e) Col.7, lines 13-26 does not teach flushing;

- f) Eikemeyer did not teach flushing instruction from a first thread from a pipeline after a predetermined number of cycle if data is to be loaded from memory;
- g) applicant's invention is before and during the flush.

9. As to a), above, applicant is reminded that page 3, lines 9-16 is directed to background of invention, not applicant's invention. Applicant failed to show the evidence of a practical application.

10. As to b), claim 1 only recites "determining ...if a stalled operation ... is due..." and "flushing...when data is to be loaded...before execution." No predictable results can be found in the claim if the stalled operation is not due or when data is not to be loaded before execution.

11. As to c), no final result achieved can be found in applicant's invention.

12. As to d), applicant is missing the point. Gottlieb clearly taught :

"Coarse grained multi-threading can provide significant performance advantages when thread switches are triggered for those operations that would otherwise **stall** the processor's pipeline for **an interval** that is **significantly longer** than **the time** required **to switch threads**. An exemplary thread switching processes may require on the order of 30 cycles to flush or drain the instructions of the current thread from the pipeline, save the thread's architectural state information, and retrieve instructions from the newly scheduled thread. (col.2, lines 54-61, emphasis added) "

13. The focus is not on the time used to flush, save, retrieve the instructions (i.e. the 30 cycles), but rather the stall which is longer than the time required to switch the thread. Therefore, the flushing was after a predetermined of time [an interval] (the longer time than the 30 cycles).

14. As to e) above, Gottlieb taught a thread switch upon detection of the long latency due to stalls (see col.7, lines 13-26). The thread switch involved processes of

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flushing the instructions (see col.2, lines 54-61). Therefore, Gottlieb did teach flushing the instructions.

15. As to f), Eikemeyer taught a flush decode logic to determine if the thread having the stalled instruction has a previous flushing condition, a dispatch flush mechanism to flush the thread having the stalled instruction from fetch stage, the decode stage, and the dispatch stage... (col.6, lines 18-26, emphasis added). The determination was made that the instruction in the thread had been stalled then to flush the thread having the stalled instruction. Therefore, Eikemeyer flushed the instruction (the thread included the stalled instruction) after the detection of the instruction being stalled (e.g. for a predetermined of time interval such as time stalled in fetch stage, decode stage, or fetch stage).

16. As to g), no before and during the flush can be found in the claim. applicant is reminded that unclaimed features cannot be used to overcome the prior art (e.g. see CCPA In re Lundenberg & Zuschlag, 113, USPQ 530, 534 (1957)).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

21 Century Strategic Plan

DANIEL H. PAN
PRIMARY EXAMINER
GROUP 1

